

**Work Order ID 67616**

Monday, March 28, 2011 2:56:14 PM



Page 1

Item ID: D205-596-107

Accept



Setup Start



Revision ID:

Stop



Item Name: Crosstube Aft Extended

Start Date: 3/28/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 4/14/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan: HDate: 11-03-21

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D205-596	Rev B								

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D205-594 bluefile &amp; type labels per PPP D205-596-107 CHG002

11 05 06 ①  
A for CL 11-5-6

110

0.00



BENDING MACHINE - CROSSTUBES

CNC Bend 2

Memo

0.00

CNC Alpha 160 Bender

1- Bend as per Dwg D2890 using CNC bender program D2890  
2- Mark cut lines as per dwg D205-596-107

11-4-21

130

QC15- Crosstube Dimensional Check

0.00



QC

Memo

0.00

Quality Control

8/10/21

①

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Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

140

0.00



Crosstubes

Crosstubes

Crosstubes

Memo

1-Cut as per dimension sheet  
2-Deburr & Inspect for surface damage. Polish cut surface. Scribe part # and batch # on one end of tube.

0.00

11-4-21

SAD 11-04-28

①

160

0.00



HandFXtube

Hand Finishing Crosstubes

Crosstubes Chemical Conversion  
HandFinishing

Memo

Chemical Conversion Coat per QSI 005 4.1

0.00

SAD 11-04-28

①

170

0.00



QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

8 6/10/28

FD

**Work Order ID 67616**

Monday, March 28, 2011 2:56:15 PM

Page 3

Item ID: D205-596-107

Accept

Setup Start

Revision ID:

Stop

Item Name: Crosstube Aft Extended

Start Date: 3/28/2011 Start Qty: 1.00

Cust Item ID:

Required Date: 4/14/2011 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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180

0.00



SprayPaint

SprayPaint

Memo

0.00

Spray Painting

1-Prime inside and outside with Immron per QSI 005 4.2

25 11 05 04 ①

190

0.00



QC14- Inspect Spray Paint

QC

Memo

0.00

Quality Control

ml 11 05 05 ①

200

0.00



Crosstubes

Crosstubes

Memo

0.00

Crosstubes

1- Lightly scuff the bonded area using a 320 grit sand paper and clean the area with 41058 wash 'n' wipe  
2- Apply magnobond 6398 as per dwg D205-596-107 Magnobond 6398  
Batch: 116677 EXP: 08/2011  
3-Inst

ml 11 05 05 ①



# Picklist Print

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Page 1

Work Order ID: 67616

Parent Item: D205-596-107

Parent Item Name: Crosstube Aft Extended



Start Date: 3/28/2011

Required Date: 4/14/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:D 05.03.21 Added bending procedure KJ/JLM  
IPP Rev:E 08-01-10 ECN 1075 DD  
IPP Rev F 08.04.28 Added bending & mat'l EC verified by: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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D2940-1		Manufactured	No			200	Each	21.0000	2	2		11-05-05	
Support													

Location	Loc Qty	Loc Code
LG052	21	
45203	1	
60271	20	

D6008-180		Manufactured	No			110	Each	23.0000	1	1		11-04-20	
Crosstube Extrusion													

Location	Loc Qty	Loc Code
LG	23	
46779	8	
59249	15	

MS21920-28		Purchased	No			200	Each	57.0000	4	4		11-05-05	
Clamp(per MIL-DTL-8783C)													

Location	Loc Qty	Loc Code
FG	5	
105884	5	
LG050	52	
116039	2	
116839	50	

# Picklist Print

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Work Order ID: 67616



Parent Item: D205-596-107



Parent Item Name: Crosstube Aft Extended

Start Date: 3/28/2011

Required Date: 4/14/2011

Start Qty: 1.00

Required Qty: 1.00

D3595-063-530

Manufactured

No

200

Each

64.0000

4

4



11.05.05

RUBBER CUSHION

Location

Loc Qty

Loc Code

LG055

64

63407

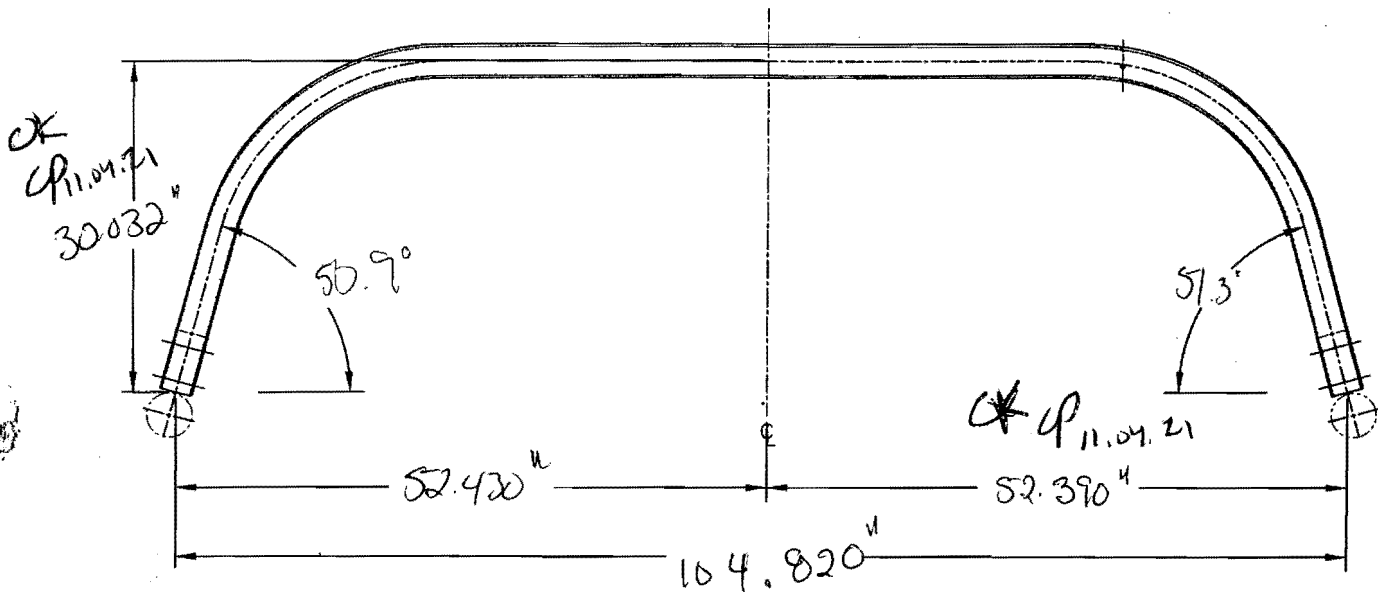
26

67185

38

DART AEROSPACE LTD		Work Order:	67044
Description: Crosstube High-High Aft		Part Number:	D205-596-107
Inspection Dwg: D205-596-107 Rev: B		Page 1 of 1	

Required Dimension	Min	Max
Height	29.7	29.9
1/2 Span	52.4	52.6
Angle	49	52
Total Span	104.8	105.2



Comments
Tube is 0.132 over tol. on height.
One width is 0.010" below tolerance
Acceptable. 11.04.21

QC15 Inspection	8
Date	11/04/21

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	08.04.21	Dwg Rev updated	KJ/JM	

**PARTS LIST:**

Qty	Part Number	Description
X	D205-596-107	CROSSTUBE ASSEMBLY, HI-HI AFT
1	D6008-180	CROSSTUBE
2	D2940-1	SUPPORT
4	D3595-063-530	RUBBER CUSHION
4	MS21920-28	CLAMP
A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

**GENERAL NOTES:**

- 1) MATERIAL: MANUFACTURE FROM D6008-180  
FINISHED LENGTH = 127.28 ± 0.02
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART 005 4.2
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH  
VIBRATING STYLUS
- 7) WEIGHT: 50 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE
- 9) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO  
BENDING IS 6% BASED ON O.D.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE  
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS  
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT  
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) APPLY A 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2940-1 THAT  
WILL BE IN CONTACT WITH THE CROSSTUBE. LET CURE FOR 12 HOURS AFTER INSTALLATION  
AND PRIOR TO PACKAGING.
- 12) INSTALL MS21920-28 CLAMPS WITH D3595-063-530 RUBBER CUSHIONS TO SECURE D2940-1  
SUPPORT ON THE TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE  
CROSSTUBE SUPPORT.  
**NOTE: IT IS ACCEPTABLE TO SUBSTITUTE MS21920-28 CLAMPS WITH LONGER OR SHORTER  
MS21920-XX CLAMPS TO ACCOMMODATE VARYING DIAMETERS. ENSURE THERE IS A MINIMUM OF  
1.5 THREADS IN SAFETY ON THE NUTS.**
- 13) TORQUE CLAMPS 80 TO 100 IN-LB

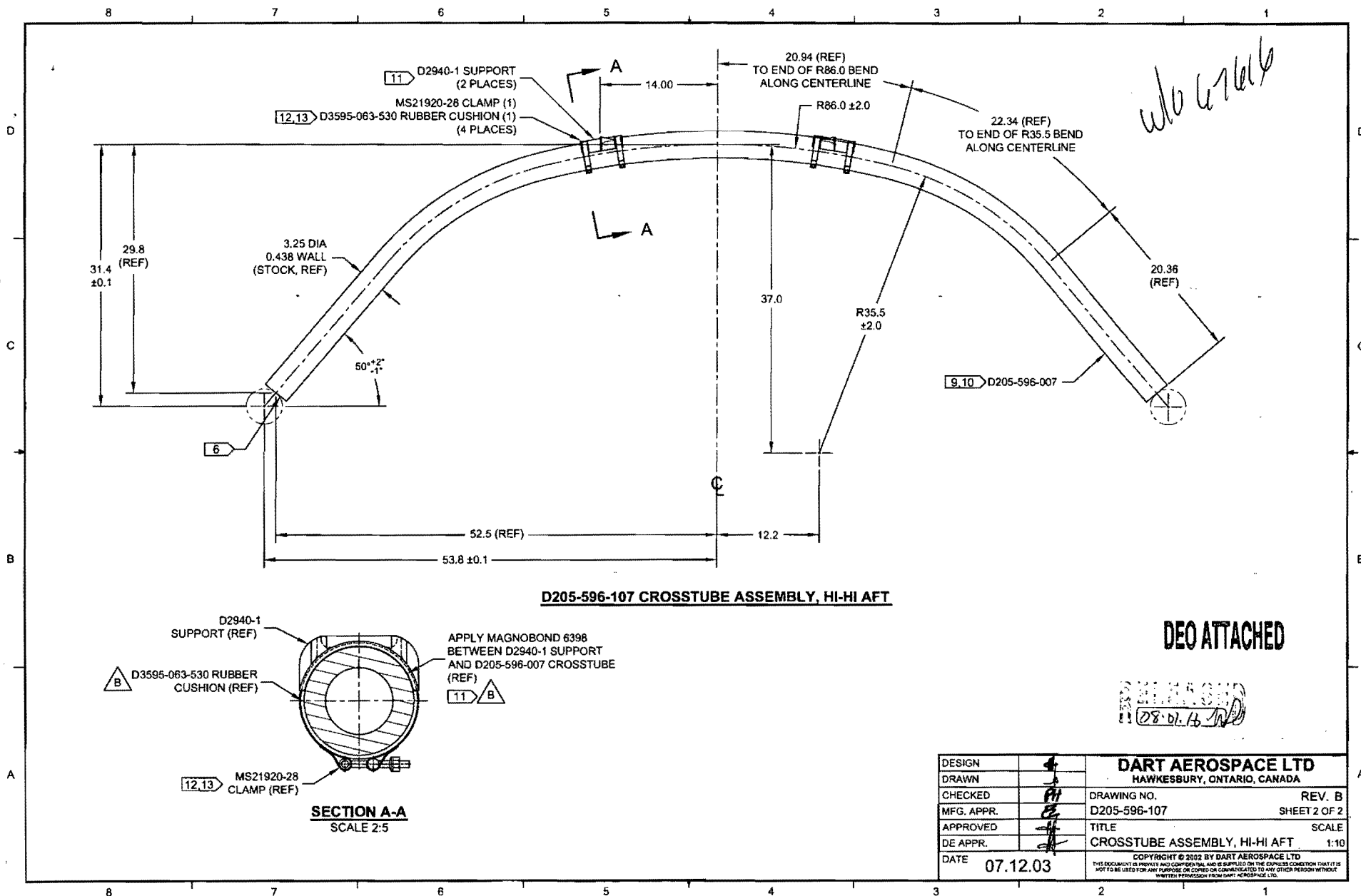
**DEO ATTACHED**

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ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 6766

PH0325

B	SUPPORT NOW MAGNOBONDED; REMOVE D2856-600-1009 ABRASION STRIP; UPDATED NOTES; ADDED D3595-063-530 CUSHION	MB	07.12.03
A	NEW ISSUE	DS	02.11.20
REV.	DESCRIPTION	BY	DATE
DESIGN		<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN		DRAWING NO.	REV. B
CHECKED		D205-596-107	SHEET 1 OF 2
MFG. APPR.		TITLE	SCALE
APPROVED		CROSSTUBE ASSEMBLY, HI-HI AFT	NTS
DE APPR.		COPYRIGHT © 2002 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	07.12.03		





DRAWING NO. D205-596-107	TITLE CROSSTUBE	REV. B	<b>DART AEROSPACE LTD ENGINEERING ORDER</b>	D.E.O. NO. D205-596-107-B-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>1/1</i>	CHECKED <i>PH</i>	MFG. APPR. <i>EE</i>	APPROVED <i>MD</i>	DE APPR. <i>#</i>		
DATE 09.05.01	DATE 09.05.15	DATE 09.06.15	DATE 09/06/16	DATE 09/06/16		

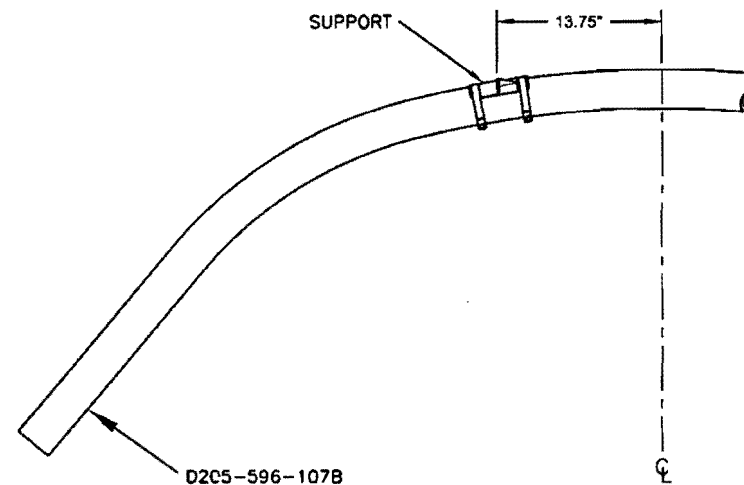
**CHANGE:**

ADD THE FOLLOWING CROSSTUBE ASSEMBLY:

Part Number	Description
D205-596-107B	CROSSTUBE ASSEMBLY (214 HI-HI AFT)

THE D205-596-107B CROSSTUBE HAS THE SAME PARTS LIST AS THE D205-596-107 CROSSTUBE. HOWEVER, INSTALL THE SUPPORTS AS SHOWN IN FIGURE 1 OF THIS ENGINEERING ORDER. THE NEW KIT IS OTHERWISE ASSEMBLED PER THE D205-596-107 CROSSTUBE.

**RELEASED**  
*09/06/16*



**FIGURE 1 - SUPPORT INSTALLATION**